

ABSTRACT OF THE DISCLOSURE

An optical transmission line allows optical signals to be transmitted with higher stability over longer distances. According to a first aspect, an optical NRZ signal is split in
5 two, one half is presented to a clock extraction circuit, and the other half is presented to an EA modulator. An optical RZ signal is obtained as an output because the EA modulator is energized by the provided clock component. According to a second aspect, a nonlinear phase shift based on cross-phase
10 modulation is induced in an RZ pulse train by an optical NRZ signal, and only the RZ pulses corresponding to the optical NRZ signal are extracted. According to a third aspect, first dispersion compensator is provided to a preceding stage of an optical fiber transmission line for transmitting optical
15 pulses, and second dispersion compensation compensator is provided to a subsequent stage. Pulse widening in the optical fiber transmission line is controlled by a nonlinear chirp induced in the first dispersion compensator.